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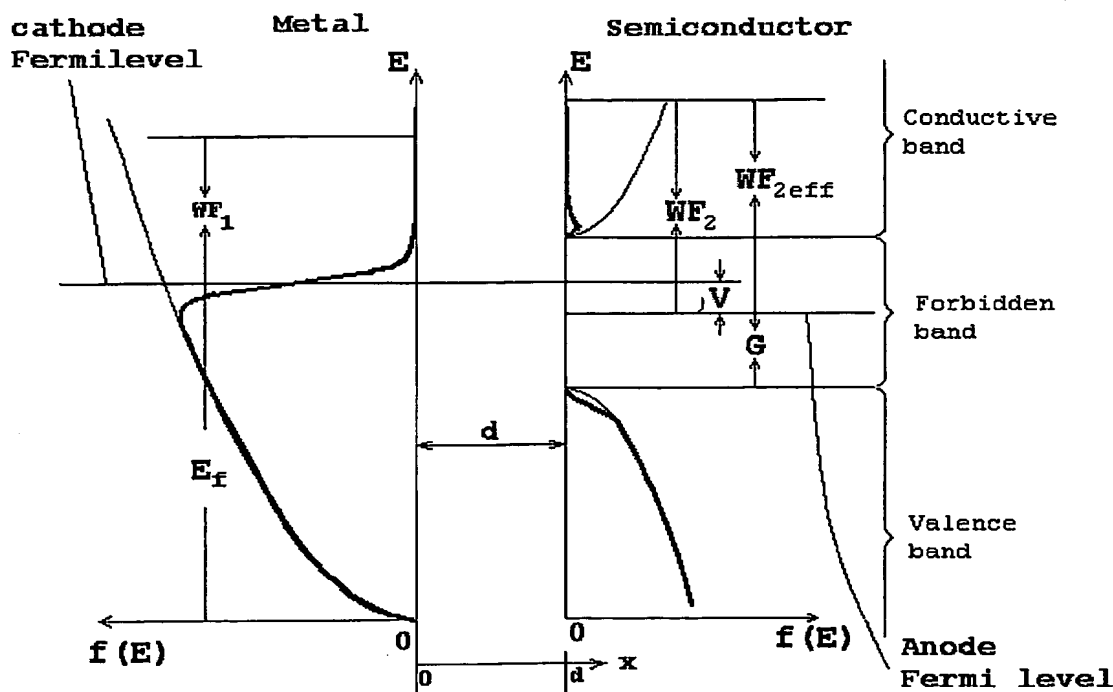
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**(54) Title:** TUNNELING GAP DIODES



**(57) Abstract:** The present invention discloses a tunneling diode having a band gap material as the collector. This increases the tunneling of electrons having greater energy than the Fermi level from emitter to collector, leading to an increase in the efficiency of heat pumping or power generation by the diode. This approach also reduces back tunneling of electrons from collector to emitter.

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